

The Effect of Amygdalin on Formalin-Induced Pain in Male Mice

Ghaibi NA¹, Sofiabadi M², Azhdari Zarmehri H², Esmacili MH², Rastak S³, Daragi L³, Rasol pour H³

¹Dept. of Biophysics, Qazvin University of Medical Sciences, Qazvin, Iran

²Dept. of Physiology, Qazvin University of Medical Sciences, Qazvin, Iran

³Faculty of Paramedical Sciences, Qazvin University of Medical Sciences, Qazvin, Iran

Corresponding Author: Sofiabadi M, Dept. of Physiology, Qazvin University of Medical Sciences, Qazvin, Iran

E-mail: mohasofi@yahoo.com

Received: 26 May 2013 **Accepted:** 24 Sep 2013

Background and Objective: Amygdalin is likely to have analgesic and metabolic effects. In this study, the effects of chronic administration of amygdalin were investigated on the pain threshold, weight and blood sugar of mice.

Materials and Methods: In this experimental study, formalin test was used as a chronic inflammatory model of pain. 60 mice (30-35 g) were divided into four groups (n=15) including: control and amygdalin 10, 25 and 50 mg /kgw groups. Amygdalin was solved in saline and injected intraperitoneally every day at 9-10am. The control group received saline intraperitoneally for one week. After the last treatment, 40µl formalin (2.5%) was injected to the right hind paw of the mice and pain symptoms (frequency of collecting flinching of the back skin and licking injection site) were recorded for 60 min. Weight of the mice was measured before and after the last treatment with amygdalin. Blood glucose was also measured at the end of the experiment. Results were analyzed by using one way ANOVA and Tukey or paired t-test.

Results: Intraperitoneal injection of 10, 25 and 50 mg/kgw doses of amygdalin reduced pain in male mice. In concentration of 50 mg/kg, not only the pain was completely inhibited but the animals' weight also decreased compared to pre-treatment period. Chronic injections of amygdalin had no impact on normal blood sugar levels.

Conclusion: Chronic intraperitoneal injection of amygdalin increases pain threshold in mice and may also cause weight loss.

Keywords: Amygdalin, Formalin test, Pain, Mice